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ABSTRACT

In the first study, 40 males (grades 7 through 8) with learning disabilities (LD) were compared to a random sample of 40 age matched non LD males using 24 learning style variables drawn from the Learning Style Inventory (LSI). Discriminant analysis revealed that non LD Ss were more persistent and adult motivated than were LD Ss, who preferred to learn with adults present. Non LD Ss preferred learning in several ways while LD Ss did not. In study 2, the LSI was administered to 41 LD Ss (grades 4, 5, and 6) and 41 non LD Ss. LD Ss preferred to learn more with peers and preferred a warmer environment. The students without LD preferred to learn more through their kinesthetic preferences, were teacher motivated, responsible and persistent with 78% of the Ss classified correctly. (Author)

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RELATIONSHIP BETWEEN LEARNING STYLE AND
STUDENTS WITH LEARNING DISABILITIES

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Relationship Between Learning Style and Students
With Learning Disabilities

Abstract

For the first study, 40 male students with learning disabilities were compared to a random sample of 40 male students from the same grades at the junior high level using 24 learning style variables based on the Learning Style Inventory (Dunn, Dunn and Price, 1975, 1978) using a discriminant analysis to determine which of the LSI variables were significant discriminators. The non-learning disabled students were more persistent and adult motivated than were the students with learning disabilities. The students with learning disabilities preferred to learn with adults present and did not prefer to learn in several ways sociologically compared to the students without learning disabilities.

For the second study, 41 male and female students having learning disabilities from grades 4, 5 and 6 were compared to 41 non-learning disabled students randomly selected from the same grades using a discriminant analysis with the LSI variables as the dependent variables. The students having learning disabilities preferred to learn more with peers and preferred a warmer environment. The students without learning disabilities preferred to learn more through their kinesthetic preferences, were teacher motivated, responsible and persistent with 78% of the subjects classified correctly.

Relationship Between Learning Style and Students With Learning Disabilities

Introduction

The Learning Style Inventory (Dunn, Dunn & Price, 1975, 1978) is an instrument designed to assess how individuals in grades 3 through 12 prefer to learn. The variables encompass 24 areas derived from a content and factor analysis. The variables are: (a) immediate environment (sound, light, temperature and design); (b) emotionality (motivation, persistence, responsibility and the need for structure or flexibility); (c) sociological needs (self, peers, adults and/or varied); (d) physical needs (perceptual preferences, time of day, food intake, and mobility).

Research in the Area of Learning Style Based on the Learning Style Inventory

Research has been conducted continually in the 1970's and 1980's to determine the relationship of learning style to various other areas and the relationship of learning style variables to each other. Several studies of grade levels 3 through 12 have dealt with changes in learning style across grades and how these changes vary from males and females. Research has demonstrated, based on group data, learning preferences change across grade levels (Price, Dunn & Dunn, 1976, 1977). For example, the lower the grade the more individuals prefer to learn using their tactile and kinesthetic senses. The higher the grade the more individuals prefer to learn using their auditory and visual senses. Food intake is significantly related to the development growth curve for females but is not significantly related for males.

Applications of Learning Style

To date, there have been several applications for the use of learning style as it relates to instruction. These include a basis for an individual conference between a teacher and student related to how they experience learning and how they prefer to learn. This conference can provide a bonding that can be very effective in establishing a relationship between the teacher and student centered around learning in the classroom.

A further application is suggested by the research which demonstrated that when students were matched with their preferred time of day to learn there is a decrease in inappropriate behavior and an increase in student attendance.

Additional research is in the area of brain functioning and the interaction of brain functioning and learning style. At this point there is very little definitive research relating hemispheric dominance to actual learning. What seems to be suggested is that there is a great deal of variation among individuals in terms of information processing and brain organization (Levy, 1981). Research stresses the importance of observing and interacting how they take in and process information.

Learning Style of Students With Learning Disabilities

The purpose of this study (Wild, J.B., 1979) was to determine whether learning style differences exist between learning disabled and non-learning disabled male students at the junior high school level. The stimuli tested were immediate environment, emotionality, sociological needs and physical needs.

The sample consisted of 80 male students, ages 12, 13, and 14 who were enrolled in grades 7 and 8 of a junior high school. The sample was divided into two groups, the learning disabled and the non-learning disabled, with 40 males in each group. The non-learning disabled sample was selected by simple random sampling.

The learning disabled sample included all those students actively participating in the learning disabilities program at the junior high level, grades 7 and 8.

The complete sample of 80 students was primarily Caucasian (96.25%) and was comprised of members of the lower middle to lower socio-economic class.

The Learning Style Inventory was administered in groups of 6 to 8 students at the time in an open classroom. The students were seated at individual desks with a response form and pencil. To eliminate a possible reading ability factor, the Inventory questions were recorded on tape by the researcher. Ten seconds were permitted between each question to allow for response time. The students circled either true (T) or false (F) on the answer form. It took approximately 25 minutes to complete each Inventory session.

An SPSS version 712A-0 step-wise discriminant analysis was used. Based on the Learning Style Inventory, differences between learning disabled and non-learning disabled students were determined.

The statistical analysis was designed to detect which of the Learning Style Inventory variables discriminated significantly between students

classified as learning disabled and those classified as non-learning disabled minimizing Wilk's Lambda Coefficient.

After a step-wise discriminant analysis was performed, 4 of 24 scales revealed significant differences between the learning disabled and non-learning disabled male students in this study. (See Table 1) Significant differences were evidenced on 4 of 24 scales, with the significant levels ranging from $p \leq .0001$ to .05. The 4 areas were persistent and not persistent, adult motivated, prefers learning with adults, and prefers learning in several ways. The non-learning disabled students were more persistent and more adult motivated than the learning disabled students. They did not prefer to learn with adults while the learning disabled students did, and they preferred learning in several sociological ways while the learning disabled students did not.

The subjects for the next study* were from a rural elementary school district in Northern California. There was a total of 1,266 students enrolled in the district. Thirteen percent of these students were of Indian origin, and 44% of the students scored below the 50th percentile on the Comprehensive Test of Basic Skills, a measurement of achievement. In addition, 48% of the students in this school district were from families of the middle to lower middle socio-economic class.

Forty-one learning disabled students, participating in the LD program, were used as a basis for this study. The learning disabled students were both males and females and consisted of the total population of LD students from the school district in grades 4, 5 and 6, and ranged in age from 9 to 12.

*Data collected by Mary Mitchell Redding, California

An additional 41 non-learning disabled students were randomly selected from grades 4, 5 and 6 from the same schools in which the LD students attended. They were average in their performance based on the Comprehensive Test of Basic Skills.

The students took the LSI (1978). The two groups of students were compared using a discriminant analysis from SPSS, release 8.0C-3, statistical procedures (See Table 2). The purpose was to identify which of the 25 LSI variables significantly discriminated between students identified as having learning disabilities and students identified as not having learning disabilities. A total of 6 LSI variables significantly discriminated between the two groups. The LD students preferred to learn more with peers, and preferred a warmer environment. The non-LD students preferred to learn more through their kinesthetic preference, were teacher motivated, responsible, and persistent ($F = 6.89$, d.f. 6,75, $p \leq .00001$ at step six) with 78% of the subjects classified correctly.

Summary

Overall, the study of learning styles indicates that there are many differences among individuals in how they prefer to learn. It is clear that students with learning disabilities have different learning style preferences than do students without learning disabilities. Further research and analysis on the implications of how instruction relates to students' learning style will hopefully help to increase student learning and teachers' ability to respond effectively in the classroom.

References

Dunn, R., Dunn, K., and Price, G.E. Learning Style Inventory, Lawrence, Kansas: Price Systems, Inc., Box 3067, 1975, 1978.

Dunn, R., Dunn, K., and Price, G.E. Learning Style Inventory Manual, Lawrence, Kansas: Price Systems, Inc., 1981.

Levy, J. Presentation made at National Conference on Learning Style and Brain Research, New Orleans, Louisiana, November 14, 1981.

Price, G.E., Dunn, R., and Dunn, K. Learning Style Research Report, Lawrence, Kansas: Price Systems, Inc., Box 3067, 1976, 1977.

Wild, J.B. A Study of the Learning Styles of Learning Disabled Students and Non-Learning Disabled Students at the Junior High School Level. Masters Thesis, University of Kansas, Lawrence, Kansas, May, 1979.